



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/052,897	01/16/2002	Shi Baw Ch'ng	12144-010001	9091
26161	7590	05/31/2006	EXAMINER	
FISH & RICHARDSON PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			ALAM, UZMA	
			ART UNIT	PAPER NUMBER
			2157	

DATE MAILED: 05/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/052,897		CH'NG, SHI BAW	
	Examiner		Art Unit	
	Uzma Alam		2157	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/16/02 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is responsive to the request for continued examination filed April 10, 2006.

Claims 1-8, 10-14 are pending. Claims 1-8, 10-14 represent a system for managing network faults.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 7, 8 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Rangaraian et al. US Patent No. 5,828,830. Rangaraian teaches the invention as claimed including a method and system for prioritizing and filtering traps from network devices (see abstract).

3. As per claims 1 and 13, Rangaraian teaches a method comprising processing information about network faults that contribute to a failure of a network element in which the faults are occurring (a system is monitored and faults on the system are noted by an agent; column 2, lines 6-29; column 3, lines 58-67; column 4, lines 1-4);

based on the results of the information processing, generating traps with respect to fewer than all of the faults that are occurring (the agent of the device generates traps; column 3, lines

Art Unit: 2157

40-48; and sends the trap to the network manager, column 3, lines 58; the trap can be discarded before it is seen by the administrator; column 5, lines 13-25); and

sending the traps to a network management station (the agent sends traps to the network manager; column 2, lines 6-29; column 3, lines 57-67; column 4, lines 1-5; column 4, lines 20-67; column 5, lines 1-13).

4. As per claim 2, Rangaraian teaches the method of claim 1 in which the information is processed using a directed acyclic graph (column 4, lines 5-19; column 6, lines 14-33).

5. As per claim 3, Rangaraian teaches the method of claim 2 in which nodes of the graph represent entities of the network element (column 3, lines 9-29).

6. As per claim 7, Rangaraian teaches a method comprising

at a network management station, receiving traps sent from network elements, the traps including information about root cause faults occurring in entities of the network elements, the traps not including information about at least some cascading faults, triggered by the root cause faults occurring in the entities (each SNMB manageable device stores MIB in its memory. The MIB is a collection of objects or variables representing different aspects of the device, such as configuration, statistics, status, and control. Each SNMB device is associated with an agent, the system is monitored and faults on the system are noted by an agent and the agents monitor their associated MIBs and send out traps whenever certain conditions occur; column 2, lines 6-29; column 3, lines 58-67; column 4; column 5, lines 1-13).

As per claim 8, Rangaraian teaches the method of claim 7 also including reporting the traps to an operator of the network management station (the agent sends traps to the network manager; column 2, lines 6-29; column 3, lines 57-67; column 4, lines 1-5; column 4, lines 20-67; column 5, lines 1-13).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 4-6, and 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rangaraian et al. US Patent No. 5,828,830 in view of Rariden et al. US Patent No. 6,292,472. Rarident teaches the invention as claimed including checking faults in a network (see abstract).

As per claim 4, Rangaraian teaches the method of claim 1. Rangaraian does not teach in which the result of the processing comprises information about the causal relationships among at least some of the faults. Rariden teaches result of the processing comprises information about the causal relationships among at least some of the faults (the node which sends the traps sends the current node's object status which contains initialization information about any current

Art Unit: 2157

equipment error or any interface association error related to the respective high speed switch; column 2, lines 58-67; column 3, lines 9-35).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine determining faults of Rangaraian with determining the causal relationship of faults of Ridden. A person of ordinary skill in the art would have been motivated to do this to determine the priority of the faults so that the most important faults are handled in a more urgent manner (Rangaraian column 3, lines 58-67; column 4, lines 1-4).

9. As per claim 5, Rangaraian teaches the method of claim 1 in which traps are generated with respect to faults that have a relationship to other faults and traps are not generated with respect to at least some of the other faults (each SNMB manageable device stores MIB in its memory. The MIB is a collection of objects or variables representing different aspects of the device, such as configuration, statistics, status, and control. Each SNMB device is associated with an agent, the system is monitored and faults on the system are noted by an agent and the agents monitor their associated MIBs and send out traps whenever certain conditions occur; column 2, lines 6-29; column 3, lines 58-67; column 4; column 5, lines 1-13).

Rangaraian does not teach faults having causal relationships. Rariden teaches that faults have a causal relationship (column 3, lines 9-35).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine determining faults of Rangaraian with determining the causal relationship of faults of Ridden. A person of ordinary skill in the art would have been motivated to do this to

Art Unit: 2157

determine the priority of the faults so that the most important faults are handled in a more urgent manner (Rangaraian column 3, lines 58-67; column 4, lines 1-4).

10. As per claim 6, Rangaraian teaches the method of claim 1. Rangaraian does not teach also including requesting fault information from an entity that is part of the network element and which has not triggered a fault notice to determine if there is a fault associated with the network element. Rariden teaches including requesting fault information from an entity that is part of the network element and which has not triggered a fault notice to determine if there is a fault associated with the network element (network elements are polled when no traps are received; column 3, lines 52-67; column 3, lines 35-49).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine polling faults of Ridden with determining faults of Rangaraian. A person of ordinary skill in the art would have been motivated to do this to not overlook any faults that may be occurring in the system.

11. As per claim 10, Rangaraian teaches Apparatus comprising

a network element having

network entities that are subject to faults, the faults of at least some of the network entities cause or are caused by faults of at least some of the network entities (each SNMB manageable device stores MIB in its memory. The MIB is a collection of objects or variables representing different aspects of the device, such as configuration, statistics, status, and control. Each SNMB device is associated with an agent, the system is monitored and faults on the system

Art Unit: 2157

are noted by an agent and the agents monitor their associated MIBs and send out traps whenever certain conditions occur; column 2, lines 6-29; column 3, lines 58-67; column 4; column 5, lines 1-13);

a medium bearing information capable of configuring a machine in the network element to generate traps (the agent sends traps to the network manager; column 2, lines 6-29; column 3, lines 58-67; column 4; column 5, lines 1-13).

Rangaraian does not teach the faults on at least some of the network entities cause or are caused by faults of at least some of the other network entities. Rariden teaches that the faults on at least some of the network entities cause or are caused by faults of at least some of the other network entities (the node which sends the traps sends the current node's object status which contains initialization information about any current equipment error or any interface association error related to the respective high speed switch; column 2, lines 58-67; column 3, lines 9-35).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine determining faults of Rangaraian with determining the causal relationship of faults of Ridden. A person of ordinary skill in the art would have been motivated to do this to determine the priority of the faults so that the most important faults are handled in a more urgent manner (Rangaraian column 3, lines 58-67; column 4, lines 1-4).

As per claims 11 and 14, Rangaraian teaches a medium bearing information capable of configuring a machine and an apparatus of claim 10 to determine faults occurring in entities of a network element (a system is monitored and faults on the system are noted by an agent and the agent sends traps to the network manager; column 2, lines 6-29; column 3, lines 58-67; column

Art Unit: 2157

4; column 5, lines 1-13). Rangaraian does not teach the faults on at least some of the network entities cause or are caused by faults of at least some of the other network entities. Rariden teaches that the faults on at least some of the network entities cause or are caused by faults of at least some of the other network entities (the node which sends the traps sends the current node's object status which contains initialization information about any current equipment error or any interface association error related to the respective high speed switch; column 2, lines 58-67; column 3, lines 9-35).

12. It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine determining faults of Rangaraian with determining the causal relationship of faults of Ridden. A person of ordinary skill in the art would have been motivated to do this to determine the priority of the faults so that the most important faults are handled in a more urgent manner (Rangaraian column 3, lines 58-67; column 4, lines 1-4).

13. As per claim 12, Rangaraian teaches the medium of claim 11 in which the information comprises a directed acyclic graph of nodes (column 4, lines 5-19; column 6, lines 14-33).

Response to Arguments

14. Applicant's arguments filed March 9, 2006 have been fully considered but they are not persuasive.

15. Applicant argues that the reference cited Rangaraian does not disclose or suggest "processing information about network faults..., and sending traps to a network management station *with respect to fewer than all of the faults* that are occurring based on the result of the

Art Unit: 2157

information processing,” as recited in claim 1 and that Rangaraian does not disclose or suggest “traps *not including information about at least some faults* occurring in the entities,” as recited in claim 7.

16. Rangarian teaches that each SNMB manageable device stores MIB in its memory. The MIB is a collection of objects or variables representing different aspects of the device, such as configuration, statistics, status, and control. Each SNMB device is associated with an agent, the system is monitored and faults on the system are noted by an agent and the agents monitor their associated MIBs and send out traps whenever *certain* conditions occur (column 3, lines 48).

17. The agents also allow the network manager to access the MIB of each SNMP manageable device. Through an agent, the network manager can read values of variables from an MIB and it can change values of variables in the MIB.

18. Because the network manager can access the MIB of the SNMP manageable device and change values of variables, certain faults that occur will never be sent to the manager if the variables are set in a way to avoid sending all traps to the management device.

19. Also, in response to this argument, applicant is directed to column 2, lines 40-46 of the reference. An agent sends traps to a network monitoring system. Some of these traps have a DISCARD filter associated with them. There is a daemon that runs in the background of the network monitoring system that checks to see if the trap has a DISCARD flag, then it is not sent to the network administrator. This passage of the reference reads on the limitation of claims 1 and 7 that all faults are not processed.

20. Applicant argues that the references Rangaraian does not teach the root cause of faults occurring in the entities. Again, column 3, lines 35-50 teach that the agent sends out traps based

Art Unit: 2157

on the variables in its MIB when certain conditions occur. These certain conditions are the root cause of the fault as claimed by the applicant.

21. Applicant also argues that the secondary reference Rariden only teaches causal relationship as a “relative sequential position of a trap in a series of traps.” In response to Applicant’s argument, Applicant is guided to column 2, lines 58-67 and column 3, lines 9-35 of Rariden. In these passage, Rariden teaches that the node which sends the traps sends the current node’s object status which contains initialization information about any current equipment error or any interface association error related to the respective high speed switch. In this portion of the reference, Rariden teaches that the node sends a trap and with the trap is information about why the trap was sent and if the trap was sent because of its relationship with a High Speed Switch. This teaches that the node in Rariden sends traps that describe faults occurring in a network and cause or are caused by faults of at least some of the other network entities.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Uzma Alam whose telephone number is (571) 272-3995. The examiner can normally be reached on Monday-Tuesday 5:30 AM - 2:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Ario Etienne can be reached on (571) 272-4001. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


Art Unit: 2157

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Uzma alam

Ua

May 22, 2006


ARIO ETIENNE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100